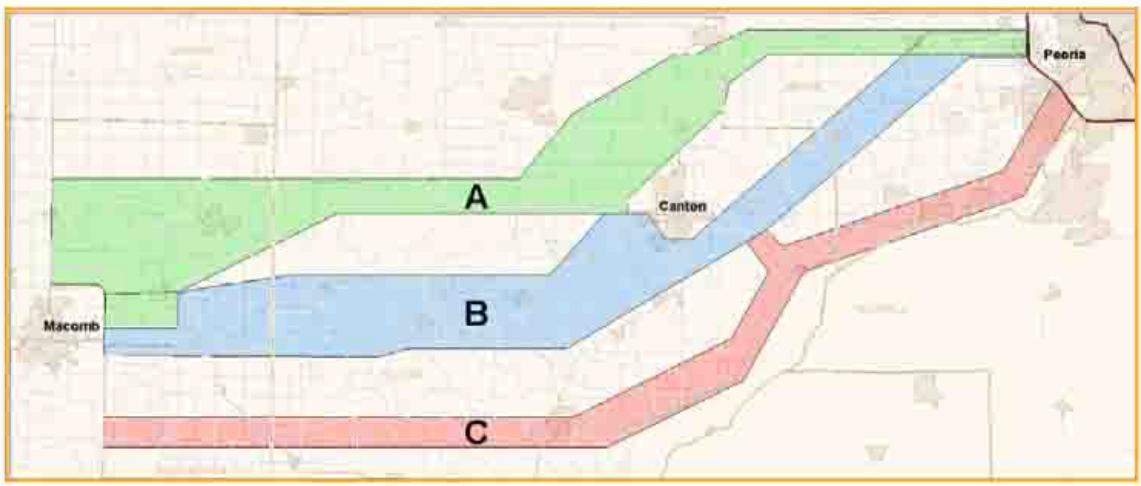
ILLINOIS 336

Peoria to Macomb Corridor Study

TRAFFIC STUDY

November 2003



Illinois Department of Transportation

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The Illinois 336 Traffic Study is part of the Illinois 336 Corridor Study from Peoria to Macomb. Information obtained from the Traffic Study will assist in the selection of a corridor. This study looks at traffic and travel patterns in the Study Area, shown on Figure 1.

A modern transportation facility is important to western Illinois. The proposed project is to provide a new highway from Interstate 474 (I-474) west of Peoria, Illinois to the eastern side of Macomb, Illinois. The proposed highway is one of a series of transportation improvements providing western Illinois and the communities of Jacksonville, Quincy, Monmouth, Macomb, Canton and Peoria greater access to each other and to various east/west and north/south interstate and expressway systems. The proposed project is approximately 60 miles long and is located in Peoria, Fulton, and McDonough Counties in west-central Illinois.

The Illinois 336 project is the culmination of a long planning process. For the past four decades, the State of Illinois, civic leaders, local agencies and citizen groups have expressed the need for an improved highway system in west-central Illinois. Since the early 1960s, planning efforts have been directed toward providing the necessary linkages from western Illinois communities to the larger cities within the region. In 1969, the Illinois General Assembly passed legislation making possible major highway improvements statewide. An important part of that legislation was the Supplemental Freeway System. One of the freeways included in the enabling legislation, Supplemental Freeway F-7 (later known as FA 407), extended from Peoria west to Quincy (Figure 2).

After passing the legislation, the Illinois Department of Transportation (IDOT) prepared a Corridor Study for FA 407 from Peoria to Illinois 61 west of Tennessee, Illinois in McDonough County. The corridor study was completed in 1970. The study evaluated three alternate corridors, A, B, and C, from Peoria to Macomb, and selected Alternate A. These corridors are shown in Figure 3. In the mid 1970s, IDOT began a Draft Environmental Impact Statement (DEIS) for FA 407 from Peoria to Canton. The EIS process was not completed, and in 1979 the study was suspended. In 1998, the 336 Coalition, a group of concerned citizens, business people, and local governments, was formed to promote the study and construction of a four-lane highway from Peoria to Macomb. In 2002, IDOT began a re-evaluation of the alternative routes in the 1970 Corridor Study. The corridor study will look at social, economic, environmental, engineering and traffic effects of the proposed highway.

The FA 407 corridor was also included in three feasibility studies for a highway connection between Chicago and Kansas City. These studies are:

- 1968, *Chicago-Kansas City Highway Corridor* – Recommended the State Authorities undertake financing studies and plans for the immediate construction of a Corridor Highway.

- 1974, *Kansas City, Missouri to Chicago, Illinois, Route Feasibility Study* – Determined a Kansas to Chicago route was economically and ecologically feasible.

- 1990, *Chicago/Kansas City Tollway Feasibility Study* - Concluded a privately-owned and operated Chicago-Kansas City Tollway was feasible if: 1) Cost, travel demand, and growth are as assumed by the study, 2) State governments acquire right of way with revenues from local assessments, 3) Tollway rates are unregulated and 4) Existing roads are incorporated into the privately-owned toll way.

3.1 REGIONAL SYSTEM

The proposed project will improve regional transportation continuity and enhance the linkage of west-central Illinois to major economic markets. This project, while having independent utility, is a key link to the following four-lane highway improvements in west-central Illinois that are either existing, under construction, or proposed (Figure 4):

U.S. 67, Macomb to Monmouth. Construction of this four-lane expressway was completed in 2002.

U.S. 67, Macomb to Alton. All studies on this project are completed and approved and design approval for a four-lane expressway between Macomb and Jacksonville was granted in 2003. A U.S. 67 bypass of Jacksonville was completed and opened to traffic in 1999. The Jacksonville Bypass connects to I-72 and a section of U.S. 67 that extends from I-72 south to Manchester that is scheduled for completion in 2004. U.S. 67 extends south of Manchester to Alton. This improvement will be constructed in sections as funding becomes available.

Illinois 336, Quincy to Macomb. Currently Illinois 336 is built and open to traffic from Quincy to one mile north of Illinois 94 (West Point Road). The section from one mile north of Illinois 94 to 3 miles south of Carthage is currently under construction with completion estimated soon. A four-lane expressway south of Carthage to the west edge of Macomb is currently under design.

Illinois 336/U.S. 67, Macomb Area Study. IDOT is currently conducting a study for a four-lane freeway around the north side of Macomb, which would connect all of the above three projects.

U.S. 24, Bartonville to Banner. Construction of a four-lane expressway section has been completed between Bartonville to Kingston Mines. The continuation of the four-lane expressway to Banner has been studied and is planned in the future.

The connection between Macomb and Peoria combined with the other four-lane facilities would provide an important link in the regional transportation system. Using I-474, Quincy, Macomb, Canton, and smaller communities would have four-lane access eastward to I-74, I-155, I-55 and I-39. This regional link would also provide an important connection between central Illinois towns and markets in western Illinois and Missouri. This regional link would serve present and future travel needs, and complete the highway network.

3.2 STUDY AREA SYSTEM

Within the Study Area, U.S. Routes 136 and 24, and Illinois Routes 9, 41, 78, 95, 97, and 116 provide the major access for the residential, commercial, and farm operations. With the exception of U.S. 24 between Bartonville and Kingston Mines and a small portion of Illinois 9 within Canton, these are two-lane highways with varying width shoulders. There are numerous locations where horizontal and vertical curves require no passing zones and speed restrictions. The existing routes provide unrestricted access to residences, fields, and commercial sites, and are also intersected by side roads at frequent intervals.

The cities at the termini of the project area, Macomb and Peoria, are the economic and population centers for McDonough and Peoria Counties. Canton, near the middle of the project area, is the economic and population center for Fulton County. Smaller communities located in the corridor Study Area include Bartonville, Farmington, Bellevue, Cuba, Lewistown, Bushnell, and Glasford.

Travel speed and safety are affected by the traffic entering and exiting the highway. Travel time is further affected by farm equipment using the highway. The proposed Illinois 336 would provide improved travel times and safety between Macomb, Canton, and Peoria. A new facility would improve vertical and horizontal alignments, provide passing lanes, and reduce vehicle conflicts at intersections, railroad crossings and access points.

3.3 EXISTING TRAFFIC

Traffic within the three county Study Area has experienced small increases over the last five years. The annual vehicle miles traveled are shown in Table 1. U.S. Census Bureau data, for the three counties included in the Study Area, shows an increase in the average number of vehicles per household, an increase in population driving alone to work, and travel time to work. This is especially true in Fulton County where the average number of vehicles per household increased from 1.74 in 1990 to 1.80 in 2000. Seventy-nine percent of the population over 16 drove alone to work in 2000, compared to seventy percent in 1990. Travel times over 30 minutes also increased. These trends support the increases in traffic volumes occurring without significant increases in population.

Table 1
1998-2002 Illinois Statewide AVMT
(annual vehicle miles traveled in millions)

County	1998	1999	2000	2001	2002
Fulton	324	326	329	326	330
McDonough	255	262	264	263	267
Peoria	1,594	1,638	1,645	1,669	1,697
Statewide	100,974	102,186	102,936	103,008	106,183

Source: Illinois Travel Statistics, Illinois Department of Transportation, 2002

Annual average daily traffic (AADT) volumes available from 2002 indicate that traffic volumes vary significantly throughout the corridor, with the highest volumes near Peoria, and the next highest concentration of traffic around Macomb. Two-lane facilities with an AADT over 8000 were noted to determine the need for a four-lane highway. Improvements are already underway along U.S. 24 from Peoria to Banner. A four-lane section would also be justified along Illinois 116 between Peoria and Hanna City, where existing volumes are around 9000 AADT. Volumes along Illinois 116 between Hanna City and Farmington are currently approaching 8000 AADT. Portions of Illinois 78, north of Canton, carry over 8000 AADT. (Figure 5).

3.4 HIGHWAY OPERATIONS

Operations on the area's highways are dependent on the facility's ability to meet the travel demand. The capacity of a facility is the maximum amount of traffic that can reasonably be expected to pass through a segment of roadway under prevailing roadway, traffic, and control conditions.

The concept of level of service (LOS) is used as a standard means of describing the ability of a highway to meet travel demand. Operational conditions within a traffic stream are described by LOS. Six levels of service, A through F, are defined with LOS A representing the best operating conditions and LOS F representing the worst. At a LOS C, highway operations are impacted by traffic density, reducing the ability for vehicles to maneuver. Therefore, for planning purposes, a LOS of C or better should be provided.

The 2000 Highway Capacity Manual was utilized to estimate the actual LOS for the roadways in the corridor. *Exhibit 12-15, Example Service Volumes for a Class I Two-Lane Rural Highway*, assumes a 60/40 directional split, 14% trucks and 4% recreational vehicles. Using a free-flow speed of 55 miles per hour and rolling terrain provides 710 vehicles per hour as the hourly volume that can be accommodated at a LOS C. The AADT that a two-lane highway can

accommodate while maintaining a LOS of C will vary with the design hour volume, the previously mentioned assumptions, and actual geometric characteristics.

Assuming the design hour volume is almost 9% of the AADT, a volume greater than 8000 AADT would result in a LOS below C for a two-lane highway. Therefore, based on the information in the table below, portions of U.S. 24, U.S. 136, Illinois 116 and Illinois 78 may be currently functioning at a LOS below C.

Table 2
2002 Roadway Operations

Roadway	Limits	No of Lanes*	2002 AADT	2002 Truck %	Accidents
US 24	Banner-Peoria	2 & 4	9000-18000	10-12	93
US 24	Banner-Lewistown	2	2500-4000	14-16	18
Il 9	Banner-Canton	2	5000-6400	7-9	40
Il 116	Peoria-Hanna City	2	6100-9100	4-6	75
Il 116	Hanna City-Farmington	2	6000-8000	6-8	13
Il 78	Canton-Farmington	2	5000-12000	4-6	46
US 67	Il 9-Macomb	4	9000-12000	6-8	33
US 136	Il 41-Macomb	2 & 4	5100-16000	7-9	36
US 136	Il 41-US 24	2	2200-2400	18-20	22
Il 95	Il 41-Il 97	2	1400-2000	8-10	20
Il 97	Il 9-US 24	2	1000-7300	8-10	7
Il 9	Il 97-Canton	2	2400-3800	6-8	16
Il 9	Bushnell-Il 97	2	1000-2700	14-16	16
Il 100	Il 78-Lewistown	2	3000-3300	7-9	13
Il 9	US 67-Bushnell	2	2200-2300	11-13	7

Source: IDOT Traffic Maps
* Existing or Planned

3.5 SAFETY

According to the IDOT 2001 Illinois Crash Facts and Statistics, there were 8300 accidents in Peoria County, McDonough County and Fulton County. These include approximately 6400 in Peoria County, 900 in McDonough County and 1000 in Fulton County. These numbers are very similar to the number of accidents that occurred during 2000.

There were a number of high accident locations identified by IDOT in the Study Area. The high accident locations for 1999 to 2001 are shown on Figure 6.

3.6 TRUCK VOLUMES

The flow and safety of traffic on the roadways are impacted by the amount of heavy vehicles (trucks, buses and recreational vehicles). As the percentage of potentially slower moving vehicles increases, delays in travel will also increase. This is especially important along two-lane highways with limited passing zones. As can be seen from the Table 2, there are a number of roadways in the study corridor with truck percentages over 10, and some segments greater than 15%.

In order to develop the travel patterns throughout the Study Area, an origin-destination survey and traffic counts were completed as part of this study. Information from a separate report for the Macomb area was utilized.

4.1 ORIGIN-DESTINATION SURVEY AND REPORT FOR THE MACOMB AREA STUDY

The area around Macomb was studied in 1995, and is summarized in the *Origin-Destination Survey and Report for the Macomb Area Study*, Revised January, 1995[1]. The main purpose of this study was to evaluate two alternative bypasses to connect the major highways entering and leaving Macomb.

There were four survey interview stations established around Macomb. These include:

S-1 U.S. 136, West of Macomb

S-2 U.S. 67, North of Macomb, south of Illinois 9

S-3 U.S. 136, East of Macomb, east of U.S. 67

S-4 U.S 67, Southeast of Macomb, south of U.S. 136.

The two survey interview stations of particular interest to the Illinois 336 Peoria to Macomb Corridor Study were S-3 and S-4. Trips entering the Macomb area at these locations were primarily headed to the Western Illinois University campus or the Macomb Industrial Park. Both of these are located north of Illinois 136 in Macomb. The study did not identify the origin of these trips.

4.2 TRAFFIC COUNTS

The 2003 Illinois 336 Traffic Study included automatic traffic counts at twenty-three locations throughout the Study Area. These locations were established to correspond to locations of previous IDOT counts, providing the ability to establish trends. Counts were also taken at the location of the origin-destination surveys. These locations are shown on Figure 7.

Traffic counts were taken for a seven-day period, twenty-four hours a day. The counts were summarized for 15-minute periods. Truck traffic was also recorded. Table 3 summarizes the data obtained from the 2003 counts, along with comparisons to available historical data.

[1] *Origin-Destination Survey and Report for the Macomb Area Study*, Revised January, 1995. FAP 315 (IL 336) and FAP 10 (US 67), McDonough County, Illinois. Prepared by: Parsons Brinckerhoff Quade & Douglas, Inc. Chicago, Illinois. Submitted to: Illinois Department of Transportation, Division of Highways/District 4.

Table 3
2003 Traffic Count Summary

Location	County	1993 AADT	2003 AADT	Annual Growth Rate (%)	1992 Truck %	2003 Truck %
US 136 east of US 67	McDonough	5,100	5,000	-0.2	9	13
US 67 south of Il 9	McDonough	6,800	8,900	2.7	8	10
Il 9 east of US 67	McDonough	2,100	2,300	0.9	8	18
Il 41 southwest of CH 17	Fulton	2,200	1,850	-1.7	14	12
US 67 south of TR 243	Warren	3,900	4,400	1.2	10	19
Il 116 west of Il 41	Knox	1,100	1,050	-0.5	31	27
Il 116 east of Il 41	Knox	1,550	1,300	-1.7	21	23
Il 9 west of CH 2	Fulton	900	1,000	1.1	8	15
Il 95 east of CH 38	Fulton	1,500	1,550	0.3	6	7
US 136 east of CH 13	Fulton	2,000	2,150	0.7	17	18
US 24 west of Il 78	Fulton	3,600	4,150	1.4	13	10
Il 97 northwest of Il 100	Fulton	1,750	1,800	0.3	17	10
Cuba-Canton, CH 5	Fulton	3,325	3,700	1.1	NA	3
Il 9 east of Il 97	Fulton	2,000	2,550	2.5	7	10
US 24 southwest of TR 223A	Fulton	2,250	2,500	1.1	10	17
Il 9 northwest of US 24	Fulton	4,700	6,800	3.8	7	11
Il 78 northeast of Norris	Fulton	4,100	4,500	1.0	7	7
Il 116 east of CH 18	Peoria	5,800	6,700	1.5	9	8
Il 116 west of Taylor Rd	Peoria	8,600	9,600	1.1	9	7
US 24 east of Glasford Rd	Peoria	8,300	10,200	2.1	10	7
Il 78 north of Brereton	Fulton	5,500	6,100	1	7	7
Il 116 west of CH 18	Fulton	2,300	2,100	-0.9	15	16
Il 8 west of Taylor Rd	Peoria	2,150	2,750	2.5	11	14

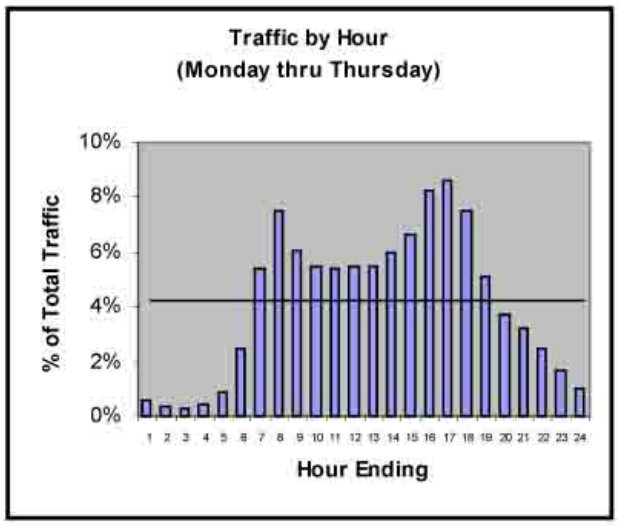
Source: 2003 data, IDOT Traffic Counts
1992 and 1993 data, IDOT historical traffic records

As the above table shows and as illustrated on Figure 8, most of the roadways in the Study Area have experienced growth over the last ten years. U.S. 24 from Bartonville to Banner and Route 9 near Canton have experienced over 2% annual growth. Portions of Illinois 116, Illinois 78, Illinois 9, Fulton County Highway 5, and U.S. 24 from Banner to Lewistown had annual growth between one to two percent. The areas of no growth are along Illinois 116 and Illinois 41 in the western half of the Study Area. Some of this lack of growth can be attributed to the loss of a coal

plant and coal mine in this area. A portion of U.S. 136 east of Macomb also experienced no growth. This is a result of traffic shifting to the recently improved U.S. 67.

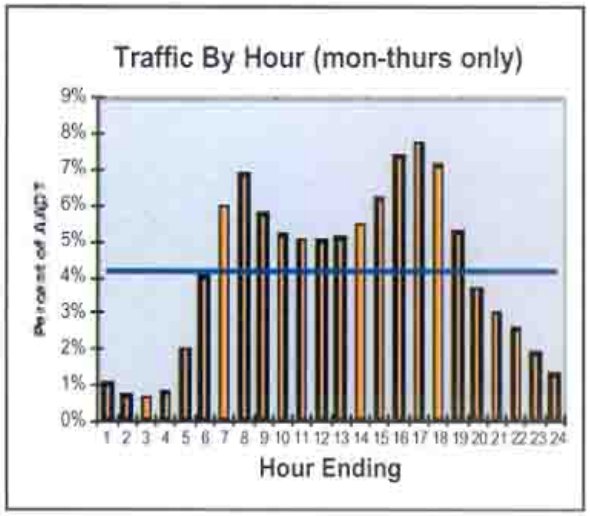
The percent of truck traffic on the Study Area roadways varies per roadway. There are a number of roads with over 15% truck traffic. Some sections of Illinois 116 near Illinois 41 have over 20% truck traffic. The peak hour (PM) factor is approximately 8.5% for weekday traffic.

Illinois 336 Study Area

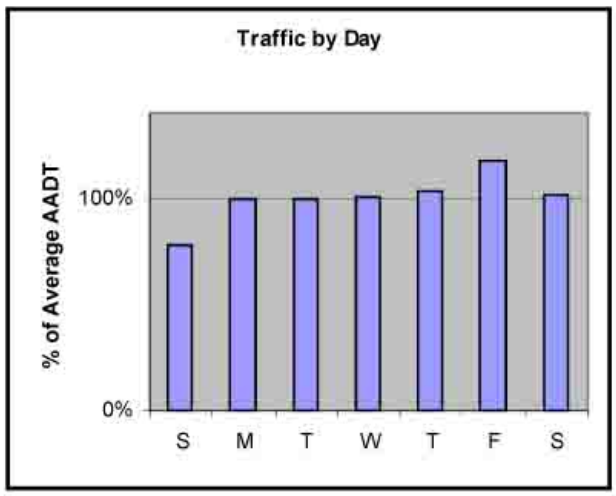


Source: 2003 Traffic Studies

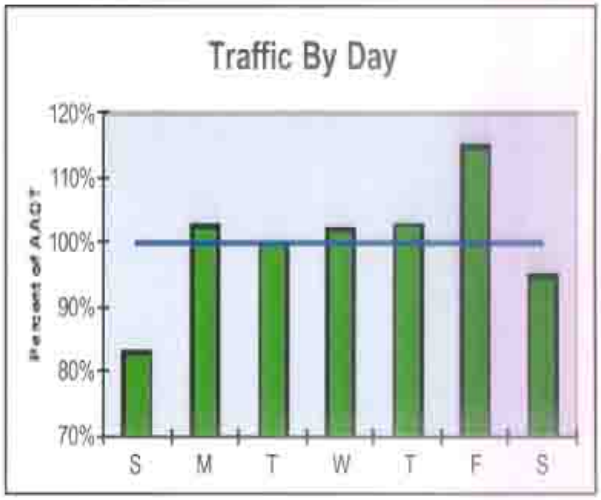
Illinois Non-Interstate (Rural)



Source: IDOT 2002 Travel Statistics



Source: 2003 Traffic Statistics

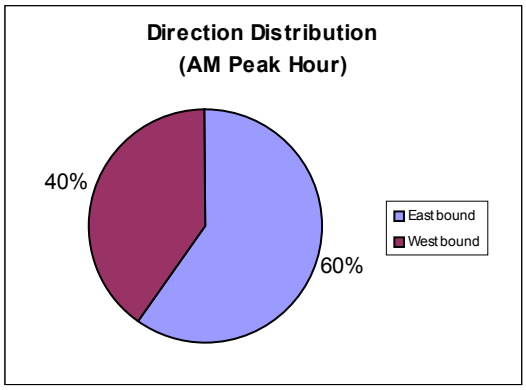


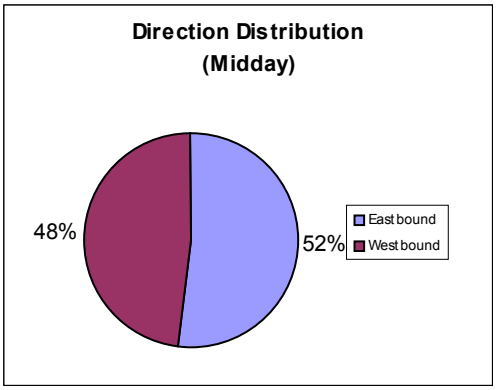
Source: IDOT 2002 Travel Statistics

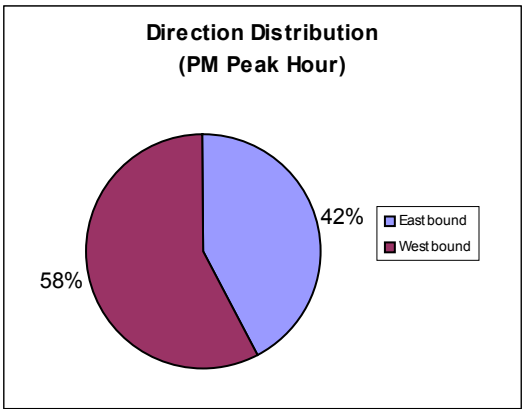
The traffic patterns in the Study Area generally follow the statewide trends for non-interstate (rural) roadways. The charts above show traffic patterns by hour and by day. The AM peak hour for the Study Area and IDOT statewide was between 7-8am. The PM peak for both was between

4-5pm. The peak travel day in the Study Area and statewide was Friday. The traffic in the Study Area appears to be more constant throughout the entire week, as compared with the statewide trends.

The directional distribution in the Study Area is shown below. The AM peak direction is eastbound. Sixty percent of the traffic was traveling eastbound and 40% westbound. The PM directional split is 58 percent westbound. These splits would be expected since many of the employment areas are located near Peoria. The midday split was 52% eastbound and 48% westbound.







Source: 2003 traffic surveys

4.3 U.S. 24, ILLINOIS 116 AND COUNTY HIGHWAY 5 ORIGIN-DESTINATION STUDY

The travel patterns in the Study Area will be one of the decision makers in the recommendation of a preferred corridor. In order to determine the travel characteristics in the area, three locations (shown in Figure 7) were selected to conduct roadside interviews of drivers. These locations were selected to determine the east-west travel patterns in the eastern portion of the Study Area. The three locations and dates of the survey are:

U.S. 24 (near Kingston Mines)	Thursday, May 1, 2003
Illinois 116 (near Hanna City)	Wednesday, May 15, 2003
Fulton County Highway 5 (Cuba-Canton Blacktop)	Tuesday, April 29, 2003

The locations for the surveys along U.S. 24 and Illinois 116 were determined to obtain the best information for travelers from the Study Area into Peoria. The location along U.S. 24 was set west of the Kingston Mines Caterpillar Plant ensuring the interviews of those employed at the plant coming from the Study Area. The location along Illinois 116 was within Hanna City. This allowed interviewing of the residents of Hanna City. The location for the interviews along County Road 5 was west of the Spoon River College and east of Wee-Ma-Tuk Hills Country Club.

Specific sites providing good visibility were selected. There was no advance public notice of the surveys so that motorists did not modify their typical travel patterns on the day of the survey.

Three separate traffic control plans (included in the Appendix) were developed to address the varying geometrics of each of the locations. Variable message boards provided advance warning of the traffic survey. Flagmen were provided for each direction. IDOT staff were in the field to assist with management of the traffic during the survey. State highway patrol representatives were also in the field to assist in traffic handling.

The interview form and questions used during the surveys are included in the Appendix. A detailed Safe Work Plan was also developed, which included a training session for all of the surveyors.

The roadside surveys began at 7am, to ensure adequate daylight, and ended at 6pm. This time period provided at least one direction of a work trip to be surveyed. Surveys were completed mid-week. Some of the surveys were briefly interrupted due to rain, but as Table 4 shows, 44% of the U.S. 24 travelers, 45% of the Illinois 116 travelers and 85% of the County Highway 5 travelers were successfully interviewed. These numbers are well within the range required to produce reliable data.

Table 4
Percent of Travelers Interviewed

Route	EB	WB	Total	Vehicles 7AM-6PM	% Surveyed
S 24	1676	1307	2983	6713	44
IL 116	1744	1339	3083	6832	45
CR 5	1010	1055	2065	2424	85
TOTAL	**4430**	**3701**	**8131**	**15,969**	**51**

Table 5 shows the purpose of the trip as it relates to either the origin or destination. As can be seen, the primary purpose of travel was work related. Work related trips represented over 50% of the trips on both U.S. 24 and Illinois 116. The work related trips on County Highway 5 were 47%. Travel related to personal business was the next highest purpose. Many of the personal business trips were medical related, highlighting the need to travel to either Canton or Peoria for medical reasons.

Table 5
Purpose of Trip

Purpose	US 24			IL 116			US 24 & IL 116 Total	CR 5			Total
	East	West	Total	East	West	Total		East	West	Total	
Work	53% (885)	59% (769)	55% (1654)	50% (876)	53% (709)	51% (1585)	53% (3239)	48% (480)	47% (494)	47% (974)	52% (4213)
Personal Business	25% (419)	23% (296)	24% (715)	30% (525)	27% (360)	29% (885)	26% (1600)	28% (285)	27% (289)	28% (574)	27% (2174)
Shopping	7% (117)	4% (55)	6% (172)	7% (121)	6% (79)	6% (200)	6% (372)	7% (68)	7% (70)	7% (138)	6% (510)
School	3% (49)	2% (30)	3% (79)	2% (42)	2% (26)	2% (68)	2% (147)	9% (95)	8% (82)	9% (177)	4% (324)
Social/ Recreational	10% (166)	10% (137)	10% (303)	8% (140)	11% (146)	9% (286)	10% (589)	7% (66)	9% (99)	8% (165)	9% (754)
Not Specified	2% (40)	2% (20)	2% (60)	2% (40)	1% (19)	2% (59)	2% (119)	2% (16)	2% (21)	2% (37)	2% (156)

The average number of occupants per vehicle was 1.3 for all of the trips surveyed. This number stayed the same when comparing travel on U.S. 24, Illinois 116 and County Highway 5. Table 6 shows the average number of occupants per vehicle summarized by trip purpose. Almost 90% of the work related trips were made in single occupant vehicles. Over 40% of the non-work based trips had vehicle occupancies of two or more. These include travel for personal business, shopping, school and social or recreational purposes. The average number of trips per week varied from 3.0 on U.S. 24, 3.2 on Illinois 116 to 3.8 on County Highway 5.

Table 6
Occupancy per Vehicle

Vehicle Type	Vehicle Occupancy							
	1	2	3	4	5	6+	Unspecified	Totals
Home - Work	2704	228	31	7	1	0	82	3053
Home - Not Work	1910	1066	185	67	16	6	81	3331
Home - Unspecified	39	20	2	1	0	0	2	64
Not Home Based	1203	248	34	10	4	18	62	1579
Not Specified	81	15	5	0	0	0	3	104
Totals	5937	1577	257	85	21	24	230	8131

The surveys were also reviewed to determine whether the trip was an internal trip (beginning and end in the Study Area), external to external (beginning and end outside of the Study Area) or internal to external. Of the 8,100 trips analyzed, over 6700 (83%) of all the trips were internal to internal trips. Internal to external trips comprised about 15% of the total trips. Only 100 (1%) trips were external to external trips.

Trips made by trucks were also reviewed independently. About 500 (6%) of the 8100 trips involved either single or multiple unit trucks. Sixty-one percent of these truck trips were internal to internal. Thirty-four percent were internal to external trips and the remaining five percent were external to external.

Although there are some county highways that provide east-west access through the Study Area, U.S. 24 and Illinois 116 are the primary highways for traffic to access the Peoria area. Many of the travelers on County Highway 5 headed to the Peoria area, used either U.S. 24 or Illinois 116. Data was summarized in a number of different combinations for the three survey locations. The information was summarized for all three study locations. In order to compare the corridors east of Canton, the origin-destination travel patterns were also analyzed with U.S. 24 and Illinois 116 combined. County Highway 5 was summarized separately.

Data was summarized to determine the primary origin and destination city pairs within the Study Area. Table 7 shows the top ten city pairs for all three survey locations. Table 8 shows the top ten pairs for U.S. 24 and Illinois 116.

Table 7
City Pairs
U.S. 24, Illinois 116 and County Highway 5
(All Vehicles)

City	State	City	State	No. of Trips
Peoria	IL	Canton	IL	968
Canton	IL	Cuba	IL	689
Peoria	IL	Farmington	IL	517
Peoria	IL	Hanna City	IL	513
Pekin	IL	Canton	IL	277
Canton	IL	Wee-Ma-Tuk	IL	265
Peoria	IL	Trivoli	IL	245
Peoria	IL	Macomb	IL	203
Pekin	IL	Glasford	IL	187
Peoria	IL	Glasford	IL	186

Table 8
City Pairs
U.S. 24 and Illinois 116
(All Vehicles)

City	State	City	State	No. of Trips
Peoria	IL	Canton	IL	968
Peoria	IL	Farmington	IL	516
Peoria	IL	Hanna City	IL	305
Pekin	IL	Canton	IL	276
Peoria	IL	Trivoli	IL	245
Pekin	IL	Glasford	IL	187
Peoria	IL	Glasford	IL	186
Peoria	IL	Lewistown	IL	163
Peoria	IL	Macomb	IL	114
Hannah City	IL	Hannah City	IL	88

In addition to reviewing trip patterns by city pairs, the Study Area was divided into zones. These zones account for the entire Study Area and are shown on Figure 7. The zones were established to help determine how travel patterns may change for the comparison of corridors. The Peoria area was separated into three zones. Zone A1 included traffic traveling to or through Kingston Mines to Pekin. Traffic traveling to areas outside of Interstate 474 near Peoria, including the Airport, were in Zone A2. Destinations in Peoria, including the hospitals, Northwoods Mall and the Shoppes at Grand Prairie, are in Zone A3. Additional information on trip patterns is included in the Appendix.

In order to evaluate the potential corridors' attraction to traffic in the future, traffic volumes were forecasted to the planning year of 2030. Changes in Study Area traffic volumes, over the last ten years, ranged from a decline of 1.7% to an increase of 3.8%. The areas of decreasing traffic were limited to areas where businesses have closed during recent years.

Any new development in the area has the potential to increase traffic volumes. There are some known opportunities for economic growth in the Study Area. These include an Ethanol Plant south of Canton, proposed by the Central Illinois Energy Corporation. The Peoria Airport has expansion planned, and there is potential development near Mapleton by the Port Group.

As discussed previously, recent census data indicates an increase in annual miles traveled in the Study Area. A one-percent annual growth rate was used to determine the forecasted traffic for 2030. This is also the growth rate used in the Macomb Area Study for local traffic and corridors without committed improvements. Figure 9 shows the 2030 AADT's for the Study Area.

The corridors identified in the 1970 corridor study have been refined as part of this study to reflect current conditions. The refined corridors are shown in Figure 10.

The corridor selection process includes evaluation of engineering, economic, and environmental issues, in addition to traffic. The traffic aspect of the evaluation will compare the forecasted traffic on the new highway and the traffic remaining on the existing roadways. At this point in the study, the corridors are very wide. Possible alignments within these corridors will be studied in the next part of the study.

In the corridor selection discussions to date, the corridors have been reviewed in segments, to allow the combinations of corridors in the final recommendation. The segments have been defined as Peoria to Canton and Canton to Macomb.

6.1 PEORIA TO CANTON

Corridor A and Corridor B both begin in the Peoria area at Interstate 474. There is an existing interchange on Interstate 474 north of the U.S. 24 interchange and south of the Interstate 74 interchange. This interchange currently provides westbound access only, using Maxwell Road. From Maxwell Road, both Farmington Road and Illinois 116 (Plank Road) can be accessed. Both Corridors A and B generally follow along Illinois 116 to Hanna City. West of Hanna City, Corridor A continues along Illinois 116 towards Farmington, before heading south towards Canton. Corridor B heads southwest from Hanna City to Canton.

The third corridor, Corridor C, connects with Interstate 474 at the existing U.S. 24 interchange. Corridor C generally follows U.S. 24 to Banner. From Banner, Corridor C could connect to Corridor B at Canton by following Illinois 9.

Currently U.S. 24 and Illinois 116 both provide connections with Interstate 474 and good access into the Peoria area. This gives flexibility to the Study Area travelers, especially those coming from the Canton area, to which route they utilize. From discussions with the travelers, the destination in Peoria and anticipated congestion can lead to the decision whether to use U.S. 24 or Illinois 116.

To better analyze the impact of the each corridor, a screen line analysis was performed. The analysis involved using imaginary north-south lines placed at strategic locations across the Study Area. The amount of 2030 east-west traffic, on major roadways, was determined at each of these screen lines. Figure 11 shows the screen lines and forecasted traffic at each location.

In looking at screen line 1, the estimated east-west traffic is over 33,000 AADT. Although some of this traffic will utilize the local roads, most of it would travel on either U.S. 24 or Illinois 116 between Peoria and Canton.

To determine how that traffic would be split between U.S. 24 and Illinois 116, data from the origin-destination surveys was utilized. Specifically, the Zone Pairs (see Figure 7 for zones) for U.S. 24 and Illinois 116 were used. If Illinois 336 was built in Corridor C, most of the traffic traveling between Peoria (Zones A1, A2 and A3) and Zones C, D, E, G, H, I, J, L, M and N would utilize Corridor C. The traffic from the remaining zones would use existing Illinois 116. This would place about 60% of the 33,000 AADT, or 20,000, on the new Illinois 336 (Corridor C). Forty percent of the 33,000 AADT, or 13,000, would use existing Illinois 116. (Figure 12)

Possible improvements along Corridor C include the upgrade of U.S. 24 (Interstate 474 to Banner) and Illinois 9 (Banner to Canton) to expressway or freeway standards. The estimated capacity of a four-lane divided expressway or freeway, at an acceptable level of service, is around 20,000 to 24,000 AADT. Based on the assumed split of traffic, Illinois 336 in Corridor C would be operating within an acceptable level of service. Illinois 116 would be carrying around 13,000 AADT. These volumes would require a four-lane section on Illinois 116 to achieve an acceptable level of service. If Corridor C was selected between Peoria and Canton, significant roadway improvements to Illinois 116 would be required in addition to the construction of Illinois 336.

From a traffic standpoint, it would be preferable to build in Corridor A or Corridor B between Peoria and Canton. This would provide two four-lane alternatives into Peoria. Existing U.S. 24 would provide access to Peoria, Kingston Mines, and Pekin, from the southern portion of the Study Area. Illinois 336 (along Corridor A or B) would also provide access to Peoria, serving the northern portion of the Study Area. It would better serve the Airport and the shopping areas located in northwest Peoria. Travelers from the Canton area would be able to use either route depending upon their final destination.

If Illinois 336 was constructed within Corridor A or Corridor B, approximately 35% of the 33,000 AADT, or 12,000, would remain on U.S. 24. The remaining 65% of the 33,000 AADT, or 21,000, would utilize the new Illinois 336, as shown in Figures 13 and 14.

Traffic data along Illinois 116 currently shows a need for a four-lane section from Peoria to Hanna City. The area justifying a four-lane section expands further to the west in the planning year of 2030. Corridor B provides a four-lane highway to Hanna City, then heads southwest to Canton. Information from the traffic forecasts and the origin-destination surveys, indicates that

almost half of the existing trips on Illinois 116 east of Hanna City are coming from west of Hanna City. This would include all travelers between Zone A and Zones K and F, and a portion of Zone B. In 2030, this would be about 10,000 AADT, almost half of the 21,000 forecasted to utilize the new Illinois 336.

These travelers would not utilize a highway in Corridor B, until east of Hanna City. The 10,000 AADT remaining on Illinois 116 would warrant improvements to at least Farmington. These Illinois 116 improvements would be in addition to the new highway in Corridor B.

Corridor A would require only the construction of Illinois 336. Less than 10% of the Illinois 336 traffic would utilize Illinois 116, west of Farmington. Most of the traffic would continue south on Illinois 336 toward Canton. The new highway would provide acceptable levels of service on the remainder of the Study Area roadways. Illinois 336 constructed in Corridor A between Hanna City and Canton, would maximize the opportunity for use by Study Area travelers.

6.2 CANTON TO MACOMB

Traffic in the western portion of the Study Area is not as high as in the eastern portion. The majority of the traffic is headed to, or through Macomb. A Macomb bypass is planned to connect Illinois 336 west of Macomb with U.S. 67 near the Macomb Airport. From there, it would turn southeast and south to connect with U.S. 67 east of Macomb. This alignment was based on information obtained in the *Origin-Destination Survey and Report for the Macomb Area Study* indicating most of the traffic was headed to the northern portion of Macomb. The Western Illinois University campus, northwest of Macomb, was a primary destination. Corridor C from Banner to Macomb would not serve this traffic. In addition, it does not provide a direct connection from Canton to Macomb. The communities of Cuba, Smithfield, Marietta, Bushnell and Bardolph are not served well by Corridor C.

The volumes along screen lines 4 and 5 indicate volumes of around 10,000 to 13,000 AADT. These volumes can be satisfied with one four-lane highway in this area. If Corridor A is selected from Peoria to Canton, Illinois 336 would bypass Canton to the northwest. This would allow the new highway to continue west in Corridor A, or to utilize Corridor B to Macomb.

Corridor B would provide more opportunities for connection to the proposed Macomb Bypass, than Corridor A. Corridor B would also provide access into Macomb on U.S. 67. Most of the traffic along County Highway 5 was local to Canton, Cuba or Wee-Ma-Tuk. Corridor B would serve all of this traffic. Corridor B also serves other communities better than Corridor A, including Smithfield, Marietta and Bardolph. Corridor B is south of Bushnell, but would still serve the industrial area.

A new highway from Interstate 474 in Peoria to the eastern side of Macomb is important to western Illinois. A new highway will improve system linkage, enhance economic stability and provide greater traffic efficiency. The Study Area is currently only served by a number of two-lane highways. The need for a new highway will increase as traffic in the Study Area continues to experience moderate growth in the future.

The potential corridors for Illinois 336, identified in the 1970 study, have been refined based on existing conditions. These refined corridors have been analyzed in segments, from Peoria to Canton and from Canton to Macomb. The analysis evaluated data collected in the origin-destination surveys, traffic counts and other information available.